

Development and Implementation of a Fuzzy System for Bid Tender Evaluation on Microcomputers

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This paper utilizes a fuzzy set arithmetic called fuzzy weighted average (FWA) to evaluate a group of bid tenders (or proposals). Three major criteria and several subcriteria were adopted in the bid proposal evaluation. A rating in terms of natural language was assigned to each criterion, which was then represented by a fuzzy set. The FWA operation was used to combine all ratings in different stages. For each bid a final fuzzy set that represents an overall evaluation was obtained. A ranking index model was used to select the best bid. The process was implemented with FORTRAN 77 on a microcomputer.

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Network Flow Models with Fuzzy Auxiliary Edge and Vertex Attributes

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Many engineering problems can be modeled by networks. This paper investigates the properties of such models when auxiliary attributes such as edge survivability or fuzzy vertex capacity are present. These properties facilitate applications in such areas as the building of evacuation models, hazardous waste transportation models, and objective-based para-expert systems. The authors also present a multicriteria dynamic programming approach to solving these problems. Although it is not the physical system that is fuzzy, but its associated attributes, the same dynamic programming technique will work through the use of the extension principle if fuzziness is also introduced into the physical model.

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On Properties of the V Uncertainty

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This paper summarizes the known properties and establishes some new properties of a function that has been referred to as the V uncertainty. When formulated in terms of the